United States Environmental Protection Agency

Office of the Administrator (WH 550G)

EPA 570/9-91-011FS
SUMMER 1991

EPA

# EPA's Strategy for Protecting the Nation's Ground Water in the 1990s:

Quick Reference Fact Sheet

In July 1989, EPA Administrator William Reilly established a Ground-Water Task Force to review the Agency's ground-water protection programs and to develop concrete principles and objectives to ensure effective and consistent decision-making in all Agency activities affecting the resource. The Task Force was chaired by Deputy Administrator F. Henry Habicht II and included senior Agency managers from all EPA Headquarters offices with ground-water protection responsibilities and selected representatives from the Agency's Regional offices.

The outcome of this effort is a report entitled: "Protecting the Nation's Ground Water: EPA's Strategy for the 1990s." This report sets forth an aggressive approach to protecting the nation's ground-water resources that will be implemented through EPA policies, programs, and resource allocations. The Strategy is divided into six sections: (A) Ground-Water Protection Principles; (B) the Federal/State Relationship; (C) EPA's Approach to Implementation; (D) the Use of Quality Standards in Ground-Water Protection and Remediation Activities; (E) Data Management Recommendations; and (F) the Office of Research and Development's Ground-Water Research Plan.

## EPA's Overall Goal

The overall goal of EPA's Ground-Water Policy is to prevent adverse effects on human health and the environment and to protect the environmental integrity of the nation's ground-water resources. In determining appropriate prevention and protection strategies, EPA will consider the use, value, and vulnerability of the resource, as well as its social and economic values.

## EPA's Ground-Water Protection Principles

To achieve its goal, the Agency has established the following principles:

- Ground water should be protected to ensure that the nation's currently used and reasonably expected drinking water supplies, both public and private, do not present adverse health risks and are preserved for present and future generations.
- Ground water should also be protected to ensure that ground water that is closely hydrologically connected to surface waters does not interfere with the attainment of surface water quality standards, which is necessary to protect the integrity of associated ecosystems.
- Ground-water protection can be achieved through a variety of means, including pollution prevention programs, source controls, siting controls, the designation of wellhead protection areas and future public water supply areas, and the protection of aquifer recharge areas.
- Ground-water remediation activities must be prioritized to limit the risk of adverse effects to human health first and then to restore currently used and reasonably expected sources of drinking water and ground water that is closely hydrologically connected to surface waters, whenever such restorations are practicable and attainable.
- The primary responsibility for coordinating and implementing ground-water protection programs always has been and should continue to be vested in the States. An effective ground-water protection program should link Federal, State, and local activities into a coherent and coordinated plan of action.
- EPA should continue to improve coordination of ground-water protection efforts within the Agency and with other Federal agencies that have ground-water responsibilities.

## THE FEDERAL/STATE RELATIONSHIP IN GROUND-WATER PROTECTION

Since the adoption of the Agency's 1984 Ground-Water Protection Strategy, EPA has been providing technical and financial assistance to build State capacity to protect ground water under the Clean Water Act. Over the last few years, States have made significant strides in developing and implementing ground-water protection strategies. Yet, much remains to be done to ensure comprehensive protection of the nation's ground-water resource.

**Principles Defining the Federal/State Relationship**

In preparing the Task Force Report, the Agency developed several principles as a starting point for determining the Federal/State relationship.

- States should retain primary responsibility for ground-water management and protection.
- The States and EPA should emphasize a resource-based approach to ground-water protection.
- Federal/State relationship should be structured to enhance and coordinate prevention efforts.
- EPA should continue to conduct research on ground-water protection and provide standard setting information to the States.
- EPA should work toward consistency among Federal agencies and programs.
- EPA should continue to consider resource use, value, and vulnerability in decision making.
- EPA should encourage States to pursue voluntary ground-water protection approaches.

### COMPREHENSIVE STATE GROUND-WATER PROTECTION PROGRAMS

Moving beyond the above Federal/State Relationship Principles, the Strategy calls for EPA to promote the development and implementation of Comprehensive State Ground-Water Protection Programs designed to protect the resource and provide the framework to coordinate programs and activities under Federal, State, and local statutes and ordinances. To do this, EPA will focus on assisting States in identifying and filling in the gaps in their current programs and developing mechanisms for integrating separate programs and setting priorities.

By the end of 1991, roundtable discussions will have been held in each Region to provide the Agency with State input on several key issues including: how to define the elements of a comprehensive program; how to determine the "adequacy" for each element of such a program; and how to oversee these State programs. Also, over the next year, EPA will continue to work with the States to develop profiles of their current ground-water protection activities that will serve as information baselines and enable the States to identify gaps in their ground-water protection programs. Based on the new Strategy, EPA believes the comprehensive program elements can be grouped into the following four categories:

- Setting goals and documenting progress;
- Characterizing the resource and setting priorities for action;
- Developing and implementing prevention and control programs; and
- Defining roles within the State and the State's relationship with Federal programs.

As the States move toward achievement of comprehensive approaches to ground-water protection, EPA will review and concur with the Comprehensive Ground-Water Protection Programs they submit. Once a State has developed an "adequate" program, EPA will defer to the State's ground-water protection policies, priorities, and standards, to the extent authorized by statute and consistent with Agency policy.

## EPA's Approach to Implementation

EPA's approach to implementation of its new Strategy requires specific actions by Headquarters, the Regions, and the States. At the Headquarters level, an ongoing Ground-Water Policy Committee will be established to oversee the implementation of the Agency "Ground-Water Protection Principles" and the Comprehensive State Ground-Water Protection Program approach. The Policy Committee will develop overall program policy direction and oversee integration of efforts within EPA through a regulatory "cluster" approach and will work with the States and other Federal agencies.

The Regions will establish or continue to use existing ground-water coordinating committees and will be responsible for ensuring that State officials are actively involved in Regional activities associated with implementing this strategy.

EPA intends to strengthen the impressive progress the States have made over the last few years, by helping them to build on their current programs and providing them with the financial, technical, and management tools to do so. In FY92 and FY93, the Agency will encourage integrated management to fill the gaps in Agency program efforts and in state comprehensive progam efforts. Starting in FY94, only States showing exemplary progress toward implementing Comprehensive Ground-Water Protection Programs will receive increased amounts, while States showing little or no progress will receive lower grant amounts.

## EPA's Use of Quality Standards

When EPA is carrying out its programs, the Agency will use Maximum Contaminant Levels (MCLs) under the Safe Drinking Water Act, as "reference points" for water resource protection efforts when the ground water in question is a potential source of drinking water. Water Quality Standards under the Clean Water Act will be used as reference points when ground water is closely connected hydrologically to surface water ecological systems. Where MCLs are not available, EPA Health Advisory numbers or other approved health-based levels are recommended as the point of reference. If such numbers are not available, reference points may be derived from health-effects literature where appropriate. In certain cases, maximum contaminant level goals (MCLGs) under the Safe Drinking Water Act or background levels may be used to comply with Federal statutory requirements.

### Use of Reference Points for Prevention and Cleanup

Reference points are to be applied differently for prevention and cleanup purposes. For prevention purposes, best technologies and management practices should be relied on to protect ground water to the maximum extent practicable. Detection of a percentage of the reference point at an appropriate monitoring location would then be used to trigger consideration of additional action (e.g., additional monitoring; restricting, limiting, or banning the use of a pesticide). Reaching the MCL or other appropriate reference point would be considered a failure of prevention.

For cleanup purposes, remediation will generally attempt to achieve a total lifetime cancer risk level of $10^{-4}$ to $10^{-6}$ and exposures to non-carcinogens below appropriate reference doses. More stringent measures may be selected based on such factors as the cumulative effect of multiple contaminants, exposure from other pathways, and unusual population sensitivities. Less stringent measures than the reference point may be selected where authorized by law, based on such factors as technological practicality, adverse environmental impacts of remediation measures, cost, and low likelihood of potential use.

## GROUND-WATER DATA MANAGEMENT

Over the last few years, the management of ground-water data in support of the nation's ground-water protection efforts has become increasingly complex. Agency programs addressing ground-water protection have grown, cross-program integration has increased, and the sheer volume of data that has to be collected and managed has expanded significantly. EPA's four major program offices collect ground-water data: the Office of Solid Waste and Emergency Response, the Office of Pesticides and Toxic Substances, the Office of Research and Development, and the Office of Water.

The Ground-Water Task Force has made a number of recommendations regarding data management that promote the protection and remediation of ground-water resources by integrating programs and filling in the gaps created by the need for cross-program integration.

- **Data Management.** Each EPA Regional Office should develop a cross-program policy on integrating and improving the management and use of ground-water data within the Region.
- **Data Accessibility.** EPA should develop a data directory for use by the Regions, States, local governments, other Federal Agencies, and the ground-water community.
- **Data Utilization.** Regions and Headquarters should incorporate the Regional GIS capabilities into Regional ground-water decision-making.

## GROUND-WATER RESEARCH PLAN

Scientific and technological know-how are essential requirements for EPA's ground-water protection efforts. The Office of Research and Development (ORD) supports an active, diverse ground-water research program dedicated to providing the scientific basis for protecting current and potential drinking water aquifers and interconnected surface water resources from contamination. Research areas span source control, detection, monitoring, prediction, and remediation of ground-water contamination.

The scope of research needs has been broadened by greater concern for ground-water quality, new legislation and regulations, better problem identification and a tendency for investigations to uncover ever greater variability in the chemistry, physics, and biology of the subsurface. EPA programs require increasingly sophisticated knowledge on which to base complex, costly contamination prevention and remediation decisions.

In addition, several new areas of research have been approved or proposed for FY91 and beyond. These are:

- Wellhead Protection
- Preventing Ground-Water Contamination from Pesticides: Information Systems for State Use
- Subsurface Characterization and Mobilization Process (SCAMP)
- Mid-West Agrichemical Subsurface/Surface Transport and Effects Research (MASTER)

**For information, contact:**

Ground-Water Protection Division
Office of Ground Water and Drinking Water
U.S. EPA, WH 550G
401 M Street, SW
Washington, DC 20460
(202)382-7077